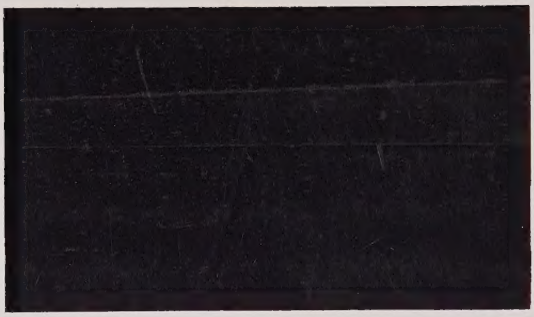
# INSTRUCTION MANUAL
# MODEL 9610
# TIMING TERMINAL UNIT
# PART NUMBER 9610-7024

datum inc.

114-3

19-21



# INSTRUCTION MANUAL
# MODEL 9610
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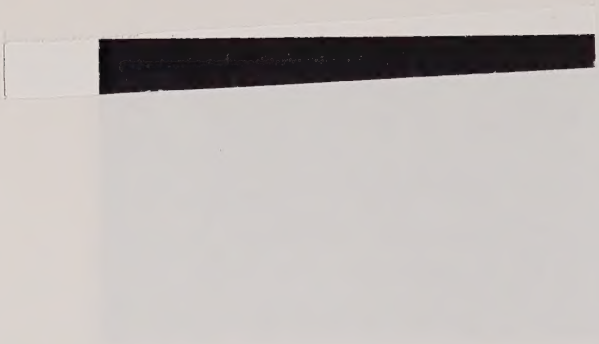
# PART NUMBER 9610-7024



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# SECTION I
# DESCRIPTION

The Model 9610-7024 Timing Terminal Unit consists of one (1) each Models 9610-141 chassis and Model 9610-169 Power Supply. The configuration of plug-in modules (9610-219-3) and/or 9610-2012) is determined by customer specifications/requirements.

The top assembly drawing in Section V shows the locations of these plug-in functional modules, and the input/output connectors. See Wiring Diagram 9610-8153 for input/output connections.

Signal input and output connections are made via BNC connectors mounted on the instrument's rear panel.

# 9610-141 CHASSIS

## GENERAL DESCRIPTION

The Model 9610-141 Chassis is a housing assembly of the DATUM, Inc. Model 9610 Timing Terminal Unit System. The various module mounting needs, power interconnection, and input/output signal connection capability are provided via wiring between the several module connectors provided in the chassis.

Up to 14 single-width modules (or up to 7 double-width modules) or any appropriate combination of widths may be accommodated in a single Model 9610-141 Chassis. Seven module connectors are supplied in the basic configuration.

Signal input/output connections are made via BNC connections mounted on the instrument's rear panel. Twelve (12) input and twenty-four (24) output connections are provided in the basic configuration. Refer to Wiring Diagram (see Top Assembly drawing) for specific input/output configuration.

Primary power is accepted via the three pin connector which mates with the supplied power cord.

The Model 9610-141 Chassis is 3-1/2 inches high, 10 inches deep and 17 inches wide, equipped with mounting ears for installation in a standard 19-inch equipment cabinet.

MODEL 9610-169 POWER SUPPLY
(P/N 19751/19752)

## GENERAL DESCRIPTION

The Model 9610-169 Power Supply is a double-width, (H-3.28" X W-2.30"), functional module of the DATUM, Inc. Model 9610-XXX Timing Terminal Unit System that provides power for the other modules in the system. It consists of a plug-in card Assembly (19751) and a Regulator Assembly (19752). The Regulator Assembly is located behind the module connectors at the rear of the unit.

The Model 9610-169 Power Supply provides the following power outputs:

1. +5 volts at 1 ampere
2. +8 volts at 1 ampere
3. -8 volts at 1 ampere

## SPECIFICATIONS

1. Power
   a. Input

      115V 10%/220V 10% 50 to 400 Hz, 30 watts

      Line voltage taps of 5% are provided for nominal line voltages of:

      110 volts - connect E2 to E8
      115 volts - connect E2 to E9 } E5 to E7
      120 volts - connect E2 to E10

      210 volts - connect E2 to E8
      220 volts - connect E2 to E9 } E5 to E6
      230 volts - connect E2 to E10

b. Output, Full Load

| Voltage | Current |
|---|---|
| +8 volts 5% | 1.0 ampere |
| -8 volts 5% | 1.0 ampere |
| +5 volts 5% | 1.0 ampere |

Each regulated voltage is over-current protected.

Pin configuration is as follows:

| | | | |
|---|---|---|---|
| 1. | +5 volts power | A. | +5 volts power |
| 2. | +5 volts return | B. | +5 volts return |
| 3. | +8 volts return | C. | +8 volts return |
| 4. | +V | D. | -V |
| 5. | +8 volt power | E. | +8 volt power |
| 6. | -8 volt return | F. | -8 volt return |
| 7. | -8 volt power | H. | -8 volt power |
| 8. | AC power neutral | J. | AC power neutral |
| 9. | AC line (high side) | K. | AC line (high side) |
| 10. | AC line (low side) | L. | AC line (low side) |

2. Mechanical: Front Panel: H-3.23" X W-2.30"
Connector: 20 pin, edge of card plated
Mounting: Front panel thumbscrews
Depth: 6.8 inches after mounting

DUAL CABLE DRIVER
MODEL 9610-219-3
Assembly No. 18713

## GENERAL DESCRIPTION

The Model 9610-219-3 Dual Cable Driver is a functional module of the DATUM, Inc. Model 9610 Timing Terminal Unit System. Power and input/outupt connections are provided by the Model 9610-140 series chassis and Model 9610-150/160 series power supply assemblies which are integral components of the 9610 system.

The Model 9610-219-3 is provided with output loss altering (alarm buss activation and visual LED indication), along with a means to test and to reset the alarms. In most cases, this feature is disabled at the factory prior to shipping by providing a constant reset (ground) to the alarm circuitry in the chassis wiring. This feature may be enabled by removing the ground from the reset pin and providing an external means of testing and resetting the alarms (Refer to input specifications).

## SPECIFICATIONS

1. Power Requirements (Nominal)
   a. Positive supply voltage (+6 to +10 volts) at 25 milliamperes (excluding load)
   b. Negative supply voltage (-6 to -10 volts) at 35 milliamperes (excluding load)
   c. +5 volts at 30 milliamperes maximum.

2. Inputs

| | | |
|---|---|---|
| a. | Input Configuration: | Single-ended |
| b. | Input Impedance: | >10 kilohms at 1MHz |
| c. | Input Levels: | Up to supply voltage |
| d. | Frequency Response: | ±3db from 1MHz to 5MHz |

   e. Alarm Test
      A momentary closure to ground
   f. Alarm Reset
      A momentary closure to ground will reset the alarm buss and indication. If a fault still exists, the fault indication will reappear upon removal of the closure to ground.

3. Outputs

| | | |
|---|---|---|
| a. | Output Configuration: | Balanced |
| b. | Output Level: | Approximately equal to the input levels |
| c. | Source Impedance: | Approximately 50 ohms |
| d. | Alarm Buss: | Diode OR'ed, low-active buss |

4. Pin Configuration

| | | | |
|---|---|---|---|
| 1. | Input A | A. | Input A (Return) |
| 2. | +5 Volts | B. | +5 Volts |
| 3. | Alarm Test | C. | Not Used |
| 4. | Output A | D. | Output A |
| 5. | Positive Supply Voltage | E. | Positive Supply Voltage |
| 6. | Alarm Reset | F. | Alarm Buss |
| 7. | Input B | H. | Input B (Return) |
| 8. | Power Ground | J. | Power Ground |
| 9. | Negative Supply Voltage | K. | Negative Supply Voltage |
| 10. | Output B | L. | Output B |

M.F. DISTRIBUTION AMPLIFIER

MODEL 9610-2012

Assembly No. 18711

## GENERAL DESCRIPTION

The Model 9610-2012 M.F. Distribution Amplifier is a functional module of the DATUM, Inc. Model 9610 Timing Terminal Unit system. Power and input/output connections are provided by the Model 9610-140 series chassis and Model 9610-150 series power supply assemblies which are integral components of the 9610 system.

The Model 9610-2012 M.F. Distribution Amplifier may be installed in any appropriate module connector of the Model 9610-140 series chassis to provide two (2) independent, isolated AC amplifier functions.

The Model 9610-2012 is provided with output loss alerting (alarm buss activation and visual LED indication), along with a means to test and to reset the alarms. In most cases, this feature is disabled at the factory prior to shipping by providing a constant reset (ground) to the alarm circuitry in the chassis wiring. This feature may be enabled by removing the ground from the reset pin and providing an external means of testing and resetting the alarms (Refer to input specifications).

## SPECIFICATIONS

1. Power Requirement (Nominal)
   a. Positive supply voltage (+6 to +15 volts) at 10 milliamperes (excluding load)
   b. Negative supply voltage (-6 to -15 volts) at 10 milliamperes (excluding load)
   c. +5 volts at 60 milliamperes

2. Inputs

| | | |
|---|---|---|
| a. | Typical input signal | IRIG B Time Code |
| | 1) Carrier frequency: | 100 kHz |
| | 2) Modulation Rate: | 10 KPPS |
| b. | Input Configuration: | Single-ended |
| c. | Input Impedance: | >5 kilohms at 1kHz |

d. Input Levels: 0.5 to 7 volts, peak-to-peak

e. Frequency Response: ±3dB from 30Hz to 30kHz

f. Alarm Test

Momentary closure to ground.

g. Alarm Reset

A momentary closure to ground will reset the alarm buss and indication. If a fault still exists, the fault indication will reappear upon removal of the closure to ground.

NOTE: The input signal type referenced above is for reference only. Any AC signal meeting the general specifications may be used.

3. Outputs

a. Each output line is fuse-protected against high voltage damage to circuitry.

b. Output level: Adjustable from 0 to approx. 10 volts, peak-to-peak.

c. Source Impedance: Approximately 600 ohms, balanced, line-to-line, transformer-coupled.

d. Alarm Buss: Diode OR'ed, low-active buss

4. Pin Configuration

| | | | |
|---|---|---|---|
| 1. | Input A | A. | Input A (Return) |
| 2. | +5 Volts | B. | +5 Volts |
| 3. | Alarm Test | C. | Not Used |
| 4. | Output A | D. | Output A |
| 5. | Positive Supply Voltage | E. | Positive Supply Voltage |
| 6. | Alarm Reset | F. | Alarm Buss |
| 7. | Input B | H. | Input B (Return) |
| 8. | Power Ground | J. | Power Ground |
| 9. | Negative Supply Voltage | K. | Negative Supply Voltage |
| 10. | Output B | L. | Output B |

# SECTION II
# THEORY OF OPERATION

The theories of operation as enumerated in the Table of Contents can be found on the following pages.

MODEL 9610-169 POWER SUPPLY
(P/N 19751)

## THEORY OF OPERATION

The Power Supply consists of three similar bridge rectifiers, filters and regulator circuits providing 8 volts (CRS1, C1-C4, A1 and A2) and +5 volts (CRS2, C5, C6 and A3) power outputs.

Each bridge rectifier output is filtered by capacitors sized for the maximum regulated current output of the respective supply. Each integrated circuit regulator output voltage is determined by the regulator type used. The regualtors are overcurrent and short circuit protected.

The AC power input is fused and bypassed to the power neutral in the Model 9610-140 Chassis. The power switch and indicator lamp are mounted on the front panel of the power supply.

## INTERNAL ADJUSTMENTS

There are no Internal Adjustments required.

DUAL CABLE DRIVER
MODEL 9610-219-3
Assembly No. 18713

## THEORY OF OPERATION

The Dual Cable Driver consists of two electrically identical driver and output-monitor circuits on a single circuit card. Each input is routed to a hybrid integrated circuit current amplifier, the output of which is transformer-coupled to the output.

The current amplifier's output is additionally routed to a voltage comparator with an input threshold set for approximately +0.25 volts, DC. The comparator's output serves as the clock for a one-shot multivibrator used as an activity sensor. As long as the current amplifier's output exceeds approximately 0.5 volts, peak-to-peak, the activity sensor receives clocks and remains "set". If the output falls below the threshold, the activity sensor "times out", setting an R-S latch, illuminating the associated L.E.D. indicator and activating a diode-OR'ed alarm buss. The R-S latch may be reset by supplying a momentary closure to ground on pin 6 of the circuit card. Activating the alarm test input (PIN 3) momentarily disables the voltage comparator, allowing the activity sensor to "time out".

M.F. DISTRIBUTION AMPLIFIER
MODEL 9610-2012
Assembly No. 18711

## THEORY OF OPERATION

The M.F. Distribution Amplifier consists of two identical AC amplifiers on a single circuit card. Each input is routed to an integrated circuit operational amplifier which is transformer-coupled (T1, T2) to the output. An adjustment potentiometer (R1, R10), mounted on the front panel, provides an adjustable overall gain of from 0 to approximately 4 (unloaded).

The amplifier's output is routed to a self-latching level-alarm circuit to provide visual indication of failure and to activate an alarm buss. The alarm circuit is comprised of an adjustable, preset level comparator (1/2 of A1, A4) which converts excursions of the amplifier output to TTL-level pulses. These pulses are used as clocks to an activity sensor comprised of a one-shot multivibrator set to approximately 15 milliseconds (1.5 times the period of the pulse rate of the IRIG A time code). If the peak level of the amplifier output falls below the DC level set by R6 (Channel A) or R15 (Channel B), the activity sensor "times out" and sets an R-S latch comprised of 1/2 of A3 illuminating the associated L.E.D. indicator and activating a diode-OR'ed alarm buss. The R-S latch may be reset by supplying a momentary closure to ground on pin 6 of the circuit card. Each output is fused. Diodes CR1/CR2 and CR8/CR9 protect the amplifier's output by limiting signal excursions to approximately ten volts.
The amplifier's response is ±3dB from 30Hz to 30kHz.

## INTERNAL ADJUSTMENTS

Alarm adjustment potentiometers R6 (Channel A), R15 (Channel B) determine the minimum acceptable output signal level. Use an oscilloscope to monitor the DC level at A4, Pin 2 (Channel A) or at A1, Pin 2 (Channel B). Adjust R6 or R15 to set this DC level to a value corresponding to the peak level determined above. When the output falls below this level, the alarm will be activated.

# SECTION III
# MAINTENANCE AND TROUBLESHOOTING

## GENERAL

The Model 9610 Timing Terminal Unit System requires no routine electronic maintenance. The following instructions are intended to be a guide in the event of a system malfunction and to isolate the malfunction to a plug-in module. Adjustments should not be made unless there is an established malfunction attributable to misadjustment. Once the malfunctioning module has been determined, failed components may be found with standard troubleshooting techniques.

## MALFUNCTION ISOLATION INSTRUCTIONS

1. Verify that all fuses are good and are seated firmly in their sockets.

2. Verify that all power inputs are within the specifications as defined in Section I.

3. Verify that input signals are within their specified limits as defined in Section I.

4. If under the above conditions the module does not meet its output specifications, the module has malfunctioned.

# SECTION IV
# RECOMMENDED SPARE PARTS

In order to insure continuous on-line operation with minimum down time for maintenance, it is recommended that spares be maintained at the module level rather than the component level at the using activity site.

It is recommended that 10% of the modules used or minimum of one (1) module of each type used (whichever is greater) be maintained at the using activity site.

The module types and quantities utilized in the system may be determined from the Top Assembly Drawing in Section V of this instruction manual.

# SECTION V
# DRAWINGS

The Drawings enumerated in the Table of Contents can be found on the following pages.

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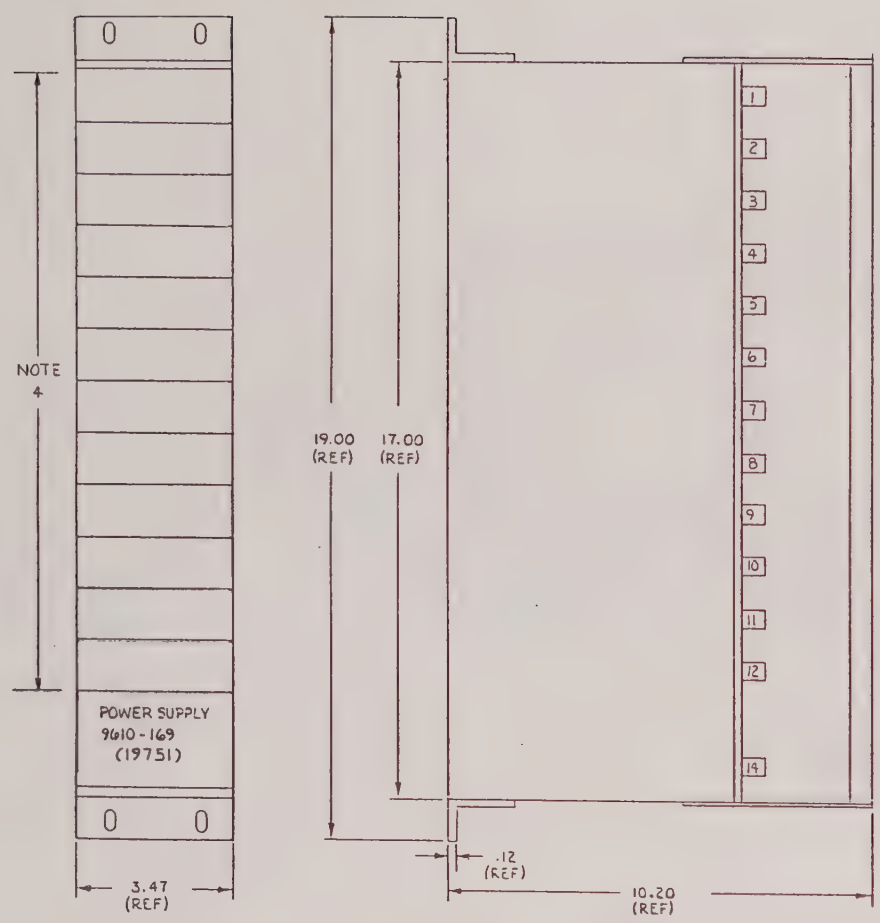


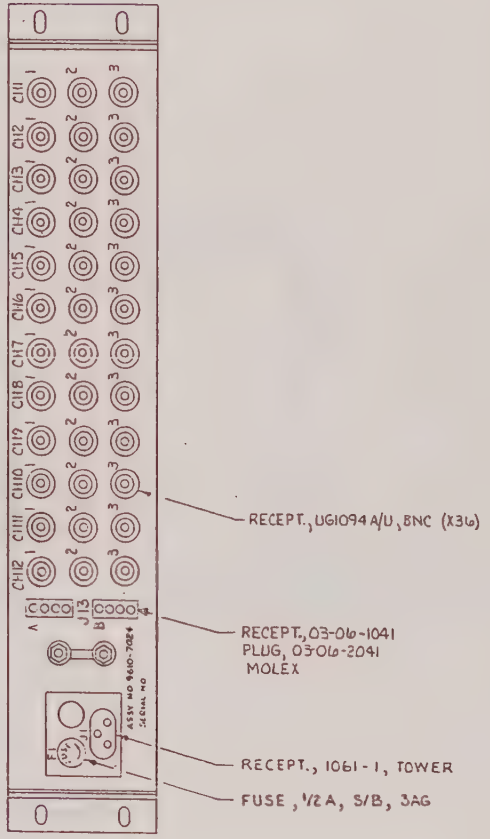


4. CHASSIS IS WIRED TO ACCEPT 9610-219-3 AND/OR 9610-2012 MODULES.
3. WIRE LIST 809163
2. J1 AC POWER INPUT
1. WIRING DIA 9610-8153

NOTES: UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOL: XX ± .03 XXX ± .005 ANGLES ± 1/2°

TITLE: TIMING TERMINAL UNIT

Datum inc.
1363 S. STATE COLLEGE BLVD.
ANAHEIM, CALIFORNIA 92805

| | | | | | |
|---|---|---|---|---|---|
| DWN JON | 3-6-86 | DES | | C | 9610-7024 |
| CHK SATINDER | 2-6-86 | ENGR | 3/24/86 | | |
| SCALE NONE | | FSC 31160 | | SIZE | SHT 1 OF 1 REV |

BISHOP GRAPHICS/ACCUPRESS REORDER NO. A 5048

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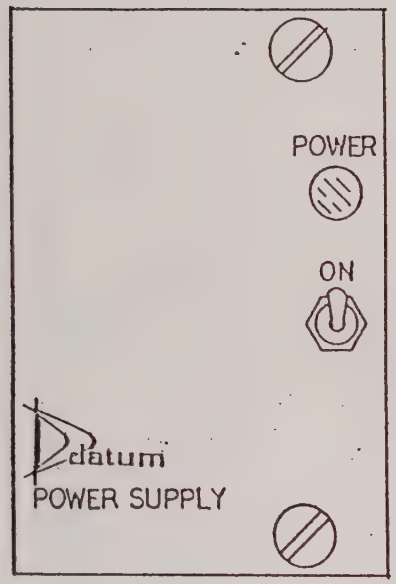


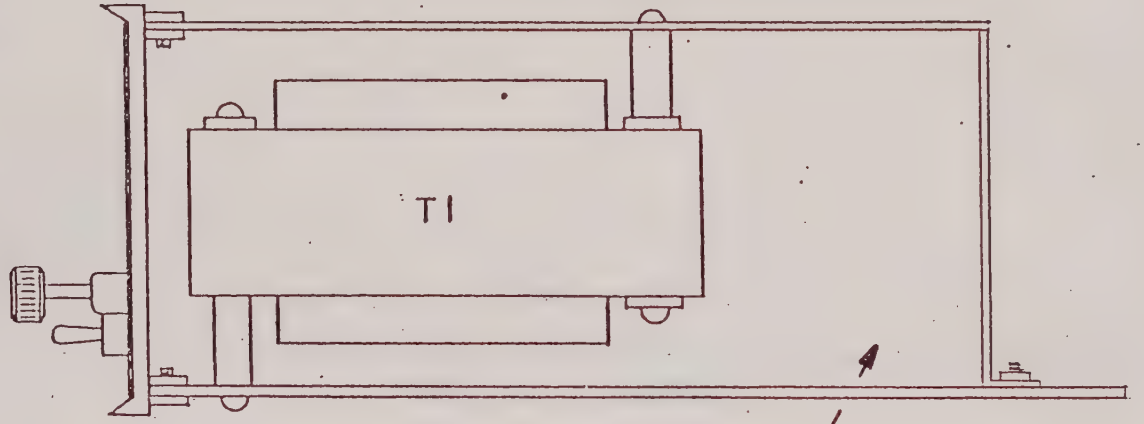


ASSEMBLY 19751

REGULATOR
ASSEMBLY
19752

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOL: .XX ±.03
.XXX ±.010
ANGLES ±1/2°

TITLE: POWER SUPPLY

| | | | | | |
|---|---|---|---|---|---|
| DWN | BRENT H. | 3/11/86 | DES | | |
| CHK | | | ENGR | | |
| SCALE | NONE | | FSC | 31160 | |

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ANAHEIM, CALIFORNIA 92806

| SIZE | SHT | OF | REV |
|---|---|---|---|
| A | 9610-169 | | |

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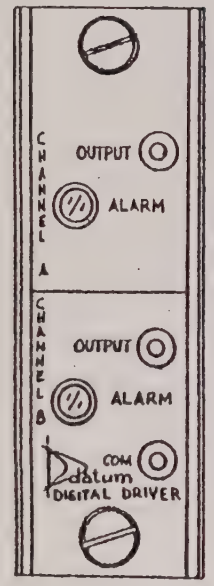
| REVISIONS | | | |
|---|---|---|---|
| LTR | DESCRIPTION | DATE | APPROVED |

FRONT PANEL



ASSEMBLY 18713

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOL: .XX ± .03
.XXX ± .010
ANGLES ± 1/2°

TITLE: CABLE DRIVER

| | | | | | |
|---|---|---|---|---|---|
| DWN | TERI | 5/3/82 | DES | | |
| CHK | | | ENGR | GH | 11/28/84 |
| SCALE | NONE | | FSC | 31160 | |

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ANAHEIM, CALIFORNIA 92806

| SIZE | | DWG NO | REV |
|---|---|---|---|
| A | SHT 1 OF 1 | 9610-219-3 | |

BISHOP GRAPHICS/ACCUPRESS REORDER NO. A 5617

| REVISIONS | | | |
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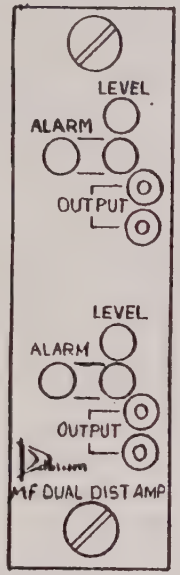

ASSEMBLY 18711

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOL .XX ± .03
.XXX ± .010
ANGLES ± 1/2°

TITLE
# DUAL M.F. DISTRIBUTION AMPLIFIER

| | | | | | |
|---|---|---|---|---|---|
| DWN TERI | 3/30/82 | DES | | A | 9610-2012 |
| CHK | | ENGR W | 1/83 | | |
| SCALE NONE | | FSC 31160 | | SIZE | SHT 1 OF 1 REV |

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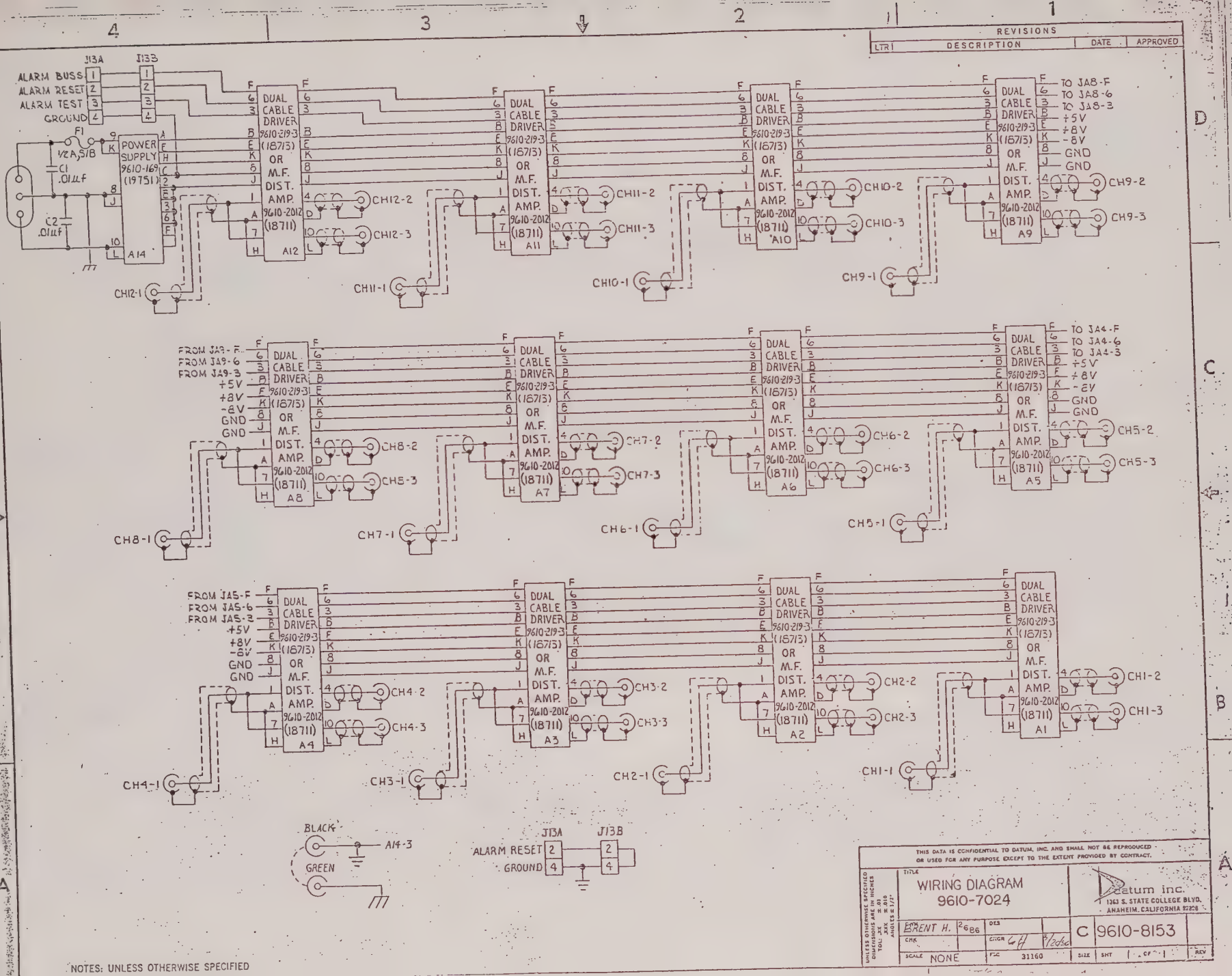
1363 S. STATE COLLEGE BLVD.
ANAHEIM, CALIFORNIA 92808

BISHOP GRAPHICS/ACCUPRESS
REORDER NO. A 5647

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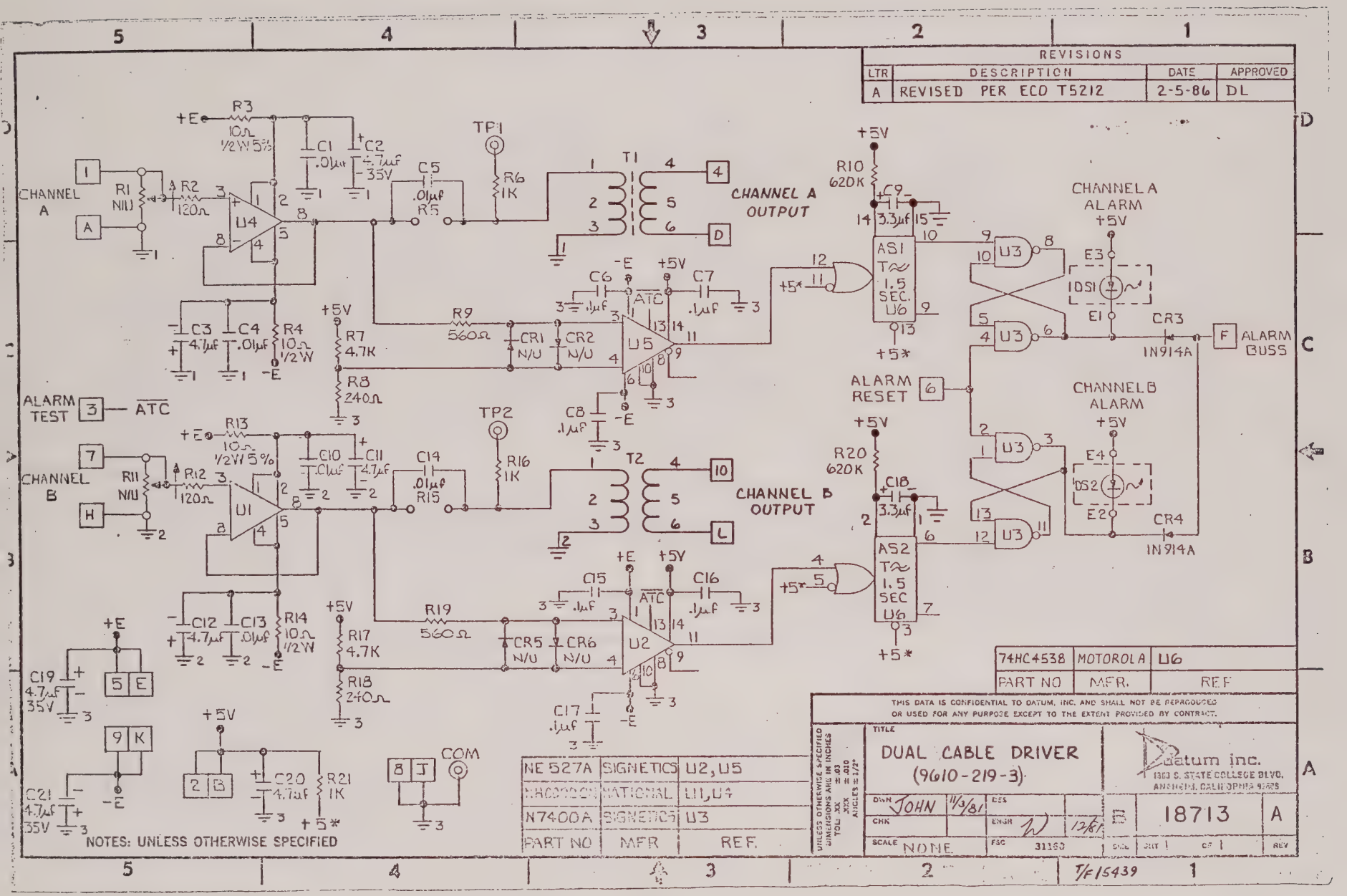
REVISIONS
LTR | DESCRIPTION | DATE | APPROVED
A | REVISED PER ECO T5212 | 2-5-86 | DL
CHANNEL A
CHANNEL B
ALARM TEST
ATC
ALARM RESET
CHANNEL A OUTPUT
CHANNEL B OUTPUT
CHANNEL A ALARM
CHANNEL B ALARM
ALARM BUSS
+5V
+5*
+E
-E
COM
TP1
TP2
T1
T2
U1
U2
U3
U4
U5
U6
AS1
AS2
DS1
DS2
CR1
CR2
CR3
CR4
CR5
CR6
IN914A
74HC4538 | MOTOLA | U6
PART NO | MFR. | REF
NE 527A | SIGNETICS | U2, U5
N7400A | SIGNETICS | U3
PART NO | MFR | REF
NOTES: UNLESS OTHERWISE SPECIFIED
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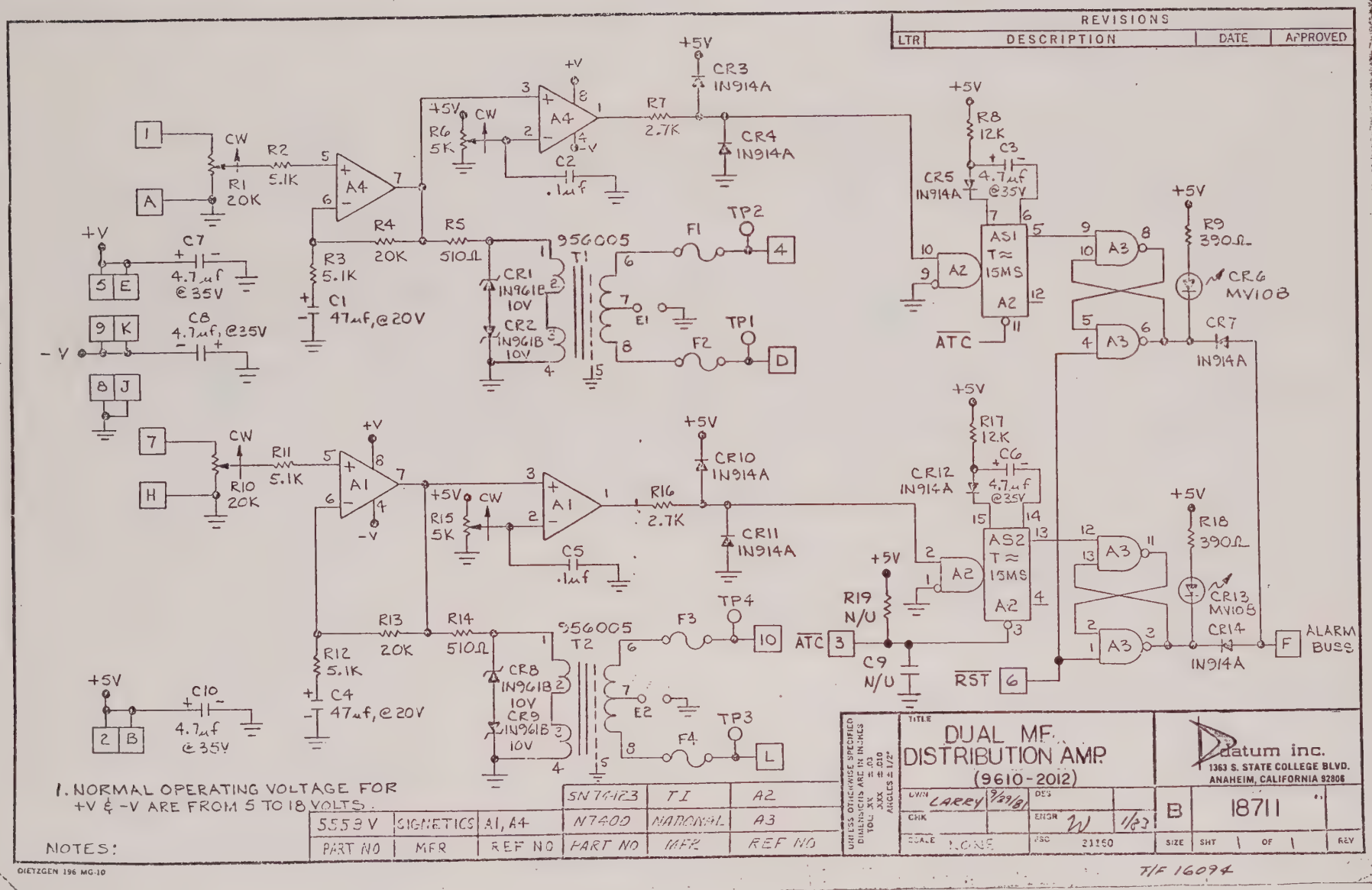
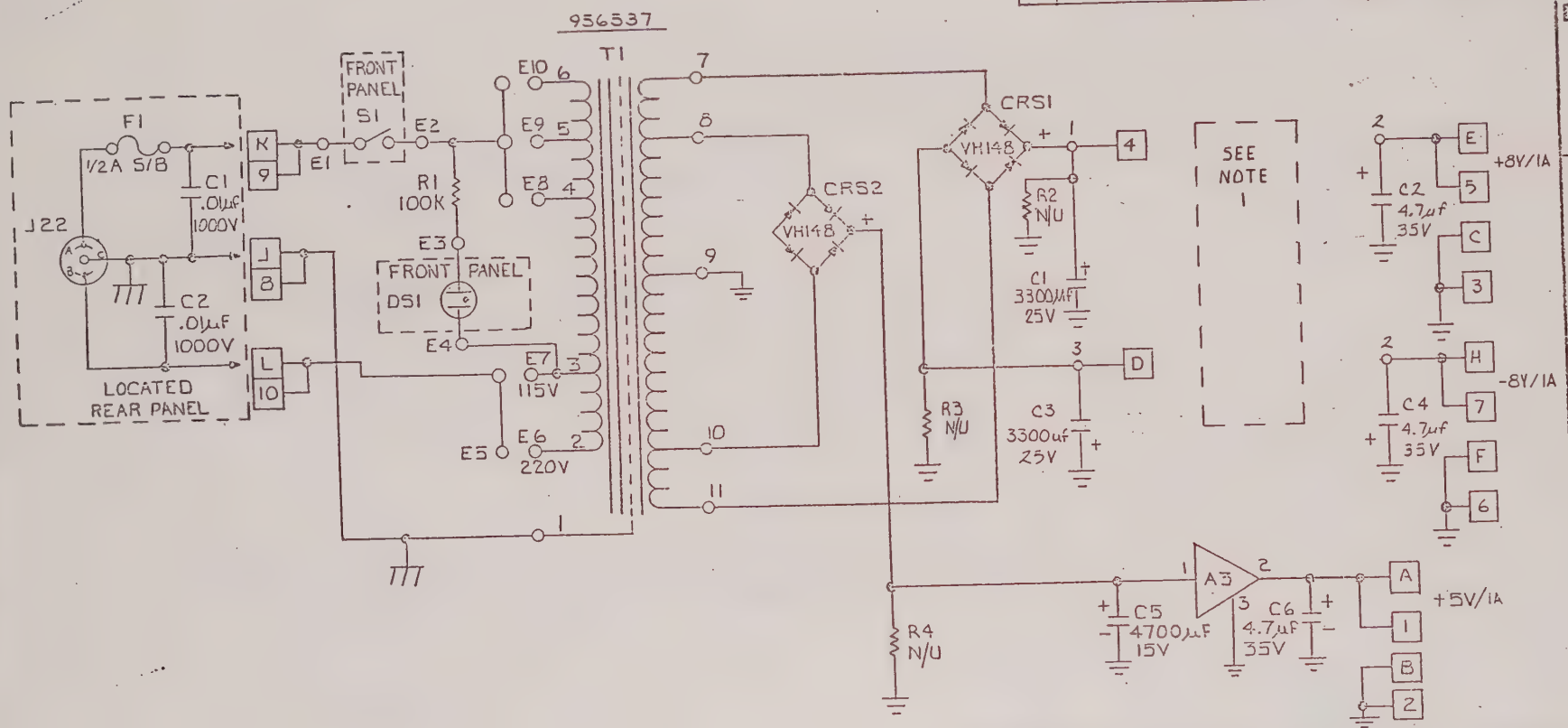
DUAL CABLE DRIVER
(9610-219-3)
Datum inc.
18713
A
JOHN
11/3/81
NONE
T/F15439


REVISIONS
LTR | DESCRIPTION | DATE | APPROVED
+5V
CR3 IN914A
CR4 IN914A
R7 2.7K
R6 5K
CW
A4
C2 .1uf
R1 20K
R2 5.1K
R3 5.1K
R4 20K
R5 510Ω
C1 47uf,@20V
C7 4.7uf @35V
C8 4.7uf,@35V
956005 T1
CR1 IN961B 10V
CR2 IN961B 10V
F1
F2
TP1
TP2
R8 12K
C3 4.7uf @35V
CR5 IN914A
AS1 T≈ 15MS
A2
A3
ATC
R9 390Ω
CR6 MV108
CR7 IN914A
R17 12K
C6 4.7uf @35V
CR12 IN914A
AS2 T≈ 15MS
R18 390Ω
CR13 MV108
CR14 IN914A
ALARM BUSS
R19 N/U
C9 N/U
RST
R10 20K
R11 5.1K
A1
C5 .1uf
R16 2.7K
R15 5K
CR10 IN914A
CR11 IN914A
R12 5.1K
R13 20K
R14 510Ω
C4 47uf,@20V
C10 4.7uf @35V
956005 T2
CR8 IN961B 10V
CR9 IN961B 10V
F3
F4
TP3
TP4
I
A
H
7
5 E
9 K
8 J
2 B
1. NORMAL OPERATING VOLTAGE FOR +V & -V ARE FROM 5 TO 18 VOLTS.
NOTES:
5553 V | SIGNETICS | A1, A4 | SN74123 | TI | A2
PART NO | MFR | REF NO | PART NO | MFR | REF NO
N7400 | NATIONAL | A3
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOL .XX ± .03 .XXX ± .010 ANGLES ± 1/2°
TITLE
DUAL MF. DISTRIBUTION AMP. (9610-2012)
DWN LARRY 9/29/81
CHK
ENGR W 11/83
SCALE NONE
FSC 21150
B
18711
SIZE
SHT 1 OF 1
REV
datum inc.
1363 S. STATE COLLEGE BLVD.
ANAHEIM, CALIFORNIA 92806
DIETZGEN 196 MG-10
T/F 16094

| REVISIONS | | | |
|---|---|---|---|
| LTR | DESCRIPTION | DATE | APPROVED |
| — | REVISED PER ECO T9764 | 10-17-83 | TL |




1. USED IN CONJUNCTION WITH REGULATOR ASSEMBLY.

NOTES: UNLESS OTHERWISE SPECIFIED

| | | |
|---|---|---|
| LM323 | NATIONAL | A3 |
| PART NO | MFR. | REF. |

THIS DATA IS CONFIDENTIAL TO DATUM, INC. AND SHALL NOT BE REPRODUCED OR USED FOR ANY PURPOSE EXCEPT TO THE EXTENT PROVIDED BY CONTRACT.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOL: XXX ± .010
ANGLES ± 1/2°

TITLE: POWER SUPPLY (9610-169)

DRWN: BRENT H. 3/1/86 DES
CHK
ENGR 3/26/86
SCALE NONE FSC 31360

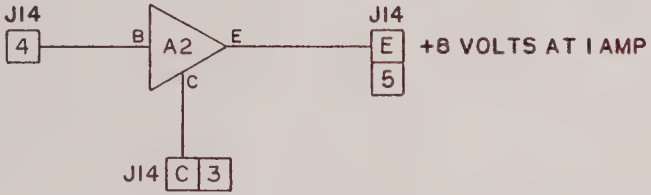
datum inc.
1363 S. STATE COLLEGE BLVD.
ANAHEIM, CALIFORNIA 92806

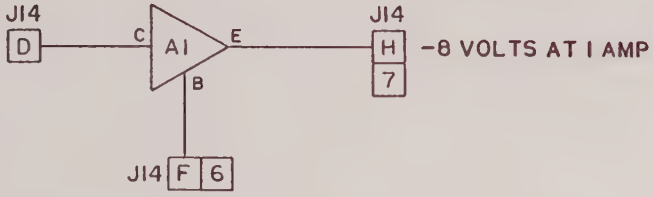
B | 19751 | REV

SIZE | SHT 1 OF 1

T/F 18733

| REVISIONS | | | |
|---|---|---|---|
| LTR | DESCRIPTION | DATE | APPROVED |




NOTES: UNLESS OTHERWISE SPECIFIED

| | | |
|---|---|---|
| A2 | 7808 | REGULATOR |
| A1 | 7908 | REGULATOR |

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOL .XX ± .03 .XXX ± .010 ANGLES ± 1/2°

TITLE
# REGULATOR ASSEMBLY

datum inc.
1363 S. STATE COLLEGE BLVD.
ANAHEIM, CALIFORNIA 92806

DWN BRENT H. 3/11/86
CHK
ENGR 3/24/86
SCALE
DES
FSC 31160

B | 19752

SIZE | SHT 1 OF 1 | REV

# SECTION VI
# MATERIALS LISTS

The materials lists enumerated in the Table of Contents can be found on the following pages.

DATE: 2.5.86
DRAWN: SATINDER
CHK:

# PARTS LIST

datum inc.

JOB NO:
QUANTITY
REV

TITLE: TIMING TERMINAL UNIT

ASS'Y NO: 9610 - 7024

SHT 1 OF 1

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | REF. DES. | UNIT COST | LOT TOTAL |
|---|---|---|---|---|---|---|---|
| 1 | 9610-140-1 | CHASSIS ASSY STK | DATUM | 1 | | | |
| 2 | " -169 | POWER SUPPLY (19751, 19752) | " | 1 | | | |
| 3 | SK 9610-7024 | SHIPPING KIT | " | 1 | | | |
| 4 | | | | | | | |
| 5 | 1702-0020 | CONNECTOR 20P | " | 13 | | | |
| 6 | 1704-1002 | " BNC | " | 36 | | | |
| 7 | " -1625-4R | " 4P | " | 2 | | | |
| 8 | 1706-1000 | BINDING POST | " | 1 | | | |
| 9 | " -1001 | " " | " | 1 | | | |
| 10 | 1792-1855 | CONTACT SOCKET | " | 8 | | | |
| 11 | 1795-0001 | WASHER | " | 36 | | | |
| 12 | " -0002 | " | " | 36 | | | |
| 13 | | | | | | | |
| 14 | 705879 | REAR PANEL | " | 1 | | | |
| 15 | | | | | | | |
| 16 | 938-L | SHORTING LINK | GENERAL RADIO | 1 | | | |

NOTES:

BISHOP GRAPHICS/ACCUPRESS
REORDER NO A33971

DATE: 3-6-86
DRAWN: DH
CHK:

# PARTS LIST

datum inc.

JOB NO:
QUANTITY

REV

TITLE: POWER SUPPLY

ASS'Y NO: 9610-189

SHT 1 OF 1

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | REF. DES. | UNIT COST | LOT TOTAL |
|---|---|---|---|---|---|---|---|
| 1 | 19751 | POWER SUPPLY | DATUM | 1 | | | |
| 2 | | | | | | | |
| 3 | 19752 | REGULATOR ASSY | — | 1 | | | |

NOTES:

BISHOP GRAPHICS/ACCUPRESS
REORDER NO. A33971

DATE: 5-17-82
DRAWN: QHE
CHK:

# MATERIAL LIST

datum inc.

JOB NO:
QUANTITY
REV

TITLE: QUAL CABLE DRIVER
ASS'Y NO: 9610-219-3
SHT/ OF/

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | REF. DES. | UNIT COST | LOT TOTAL |
|---|---|---|---|---|---|---|---|
| 1 | 12713 | QUAL CABLE DRIVER | DATUM | 1 | | | |

NOTES:

DATE: 5-17-82
DRAWN: GAE
CHK:

# MATERIAL LIST

datum inc.

JOB NO:
QUANTITY
REV

TITLE: M.F. DISTRIBUTION AMP
ASS'Y NO: 9610-2012
SHT/ OF/

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | REF. DES. | UNIT COST | LOT TOTAL |
|---|---|---|---|---|---|---|---|
| 1 | 18711 | M.F. DIST. AMP | DATUM | 1 | | | |

NOTES:

BISHOP GRAPHICS/ACCUPRESS
REORDER NO. A-7967

DATE: 4-21-71
DRAWN: IC
CHK:

# MATERIAL LIST

Datum inc.

JOB NO:
QUANTITY:
REV: A
TITLE: DUAL CABLE DRIVER
ASS'Y NO: 18713
SHT 1 OF 2

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | | | | REF. DES. | UNIT COST | LOT TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | 0102-0121 | RESISTOR 120Ω 1/4W, 5% | DATUM | 2 | | | | R2, 12 | | | |
| 3 | " -0241 | " 240Ω " | " | 2 | | | | R8, 18 | | | |
| 4 | " -0102 | " 1K " | " | 3 | . | | | R6, 16, 21 | | | |
| 5 | " -0472 | " 4.7K " | " | 2 | | | | R7, 17 | | | |
| 6 | " -0561 | " 560Ω " | " | 2 | | | | R9, 19 | | | |
| 7 | " -0624 | " 620K " | " | 2 | | | | R10, 20 | | | |
| 8 | 0104-0100 | " 10Ω 1/2W, 5% | " | 4 | | | | R3, 4, 13, 14 | | | |
| | | | | | | | | | | | |
| 10 | 0220-0335 | CAPACITOR 3.3μf, 35V | " | 2 | | | | C9, 18 | | | |
| " | " -0475 | " 4.7μf, " | " | 7 | | | | C2, 3, 11, 12, 19, 20, 21 | | | |
| 12 | 0226-0103-1 | " .01μf, 100V | " | 4 | | | | C1, 4, 10, 13 | | | |
| 13 | " -0104-1 | " .1μf, " | " | 6 | | | | C6, 7, 8, 15, 16, 17 | | | |
| 14 | 0212-0103 | " .01μf | " | 2 | | | | C5, 14 | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 17 | 0301-7400 | IC N7400A | " | 1 | | | | U3 | | | |
| 18 | " -NH02 | " NH0002 CN | " | 2 | | | | U1, 4 | | | |
| 19 | " -0527-1 | " 527 | " | 2 | | | | U2, 5 | | | |
| 20 | " -HC45-38 | " 74HC4538 | " | 1 | | | | U6 | | | |
| | | | | | | | | | | | |
| 22 | 0500-0306 | DIODE IN914A | — | 2 | | | | CR3, 4 | | | |
| 23 | 1706-3000 | TEST POINT BLK | " | 1 | | | | COM | | | |
| 24 | 1706-3002 | TEST POINT RED | " | 2 | | | | TP1, 2 | | | |
| 25 | 1708-3711 | SOCKET IC 10P. | " | 2 | | | * | U1, 4 | | | |
| 26 | " -3788 | " IC SOLDER | " | 3 | | | | U2, U3, U5 | | | |

NOTES: * CUT OFF W/W PINS

DATE: 4-21-71
DRAWN: IC
CHK:

# MATERIAL LIST

datum inc.

JOB NO:
QUANTITY:
REV A

TITLE: DUAL CABLE DRIVER

ASS'Y NO: 18713

SHT 2 OF 2

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | REF. DES. | UNIT COST | LOT TOTAL |
|---|---|---|---|---|---|---|---|
| 27 | 1708-3789 | SOCKET, IC, SOLDER | DATUM | 1 | U6 | | |
| 29 | 1706-1447 | BUSHING, BLACK | " | 1 | COM | | |
| 30 | " -1447-1 | " , WHITE | " | 2 | TP1, 2 | | |
| 32 | 2204-0009 | LED (W. RES) | " | 2 | DS1, 2 | | |
| 33 | 2325-2007 | FASTENER | " | 2 | | | |
| 35 | 705773 | COVER PLATE | " | 1 | | | |
| 36 | 705774 | F. PANEL | " | 1 | | | |
| 38 | 171769 A1 | PC BOARD | " | 1 | | | |
| 40 | A-18713 | ASSY AID | " | REF | | | |
| 41 | | | | | | | |
| 42 | 0601-0001 | TRANSFORMER | " | 2 | T1, 2 | | |

NOTES:

DATE: 10-08-81
DRAWN: QHC
CHK:

# MATERIAL LIST

datum inc.

JOB NO:
QUANTITY

REV

TITLE: MF DUAL DISTRIBUTION AMP

ASS'Y NO: 18711

SHT 1 OF 2

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | REF. DES. | UNIT COST | LOT TOTAL |
|---|---|---|---|---|---|---|---|
| 1 | 0102-0391 | RESISTOR 390Ω 1/4W5% | DATUM | 2 | R9,18 | | |
| 2 | " -0511 | " 510Ω " " | " | 2 | R5,A | | |
| 3 | " -0272 | " 2.7K " " | " | 2 | R7,16 | | |
| 4 | " -0512 | " 5.1K " " | " | 4 | R2,3,11,12 | | |
| 5 | " -0123 | " 12K " " | " | 2 | R8,17 | | |
| 6 | " -0203 | " 20K " " | " | 2 | R4,13 | | |
| 7 | 0153-5001 | " POT 5K | " | 2 | R6,15 | | |
| 8 | " -2002 | " " 20K | " | 2 | R1,10 | | |
| 9 | | | | | | | |
| 10 | 0212-0104 | CAPACITOR .1MF 100V | " | 2 | C2,5 | | |
| 11 | 0220-0475 | " 4.7MF 35V | " | 5 | C3,C-8,10 | | |
| 12 | " -0476-2 | " 47MF 20V | " | 2 | C1,4 | | |
| 13 | | | | | | | |
| 14 | 0301-5558 | IC LM1458N | " | 2 | ** A1,4 | | |
| 15 | " -7123 | " SN74123N | " | 1 | * A2 | | |
| 16 | " -7400 | " U7400A | " | 1 | A3 | | |
| 17 | | | | | | | |
| 18 | 0500-0306 | DIODE 1N914A | " | 8 | CR3-5,7,10-12,14 | | |
| 19 | 0515-0961-2 | " 1N961B | " | 4 | CR1,2,8,9 | | |
| 20 | | | | | | | |
| 21 | 0601-6005 | TRANSFORMER | " | 2 | T1,2 | | |
| 22 | | | | | | | |
| 23 | 0703-0010 | FUSE 1/10A | " | 4 | F1-4 | | |
| 24 | | | | | | | |
| 25 | 1706-1447-1 | BUSHING | " | 4 | | | |
| 26 | 1708-3720-1 | COMP LEAD SOCKET | " | 8 | XF1-4 | | |

NOTES:

BISHOP GRAPHICS/ACCUPRESS
REORDER NO. A-7967

DATE: 10-08-81
DRAWN: RHE
CHK:

# MATERIAL LIST

datum inc.

JOB NO:
QUANTITY

REV

TITLE: MF DUAL DISTRIBUTION AMP

ASS'Y NO: 18711

SHT 2 OF 2

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | | | | REF. DES. | UNIT COST | LOT TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | 1706-3002 | TEST POINT | DATUM | 4 | | | | TP1-4 | | | |
| 28 | 1708-2034 | SOCKET 8P | - | 2 | | | ** | | | | |
| 29 | - -3100 | - 16P | - | 1 | | | * | | | | |
| 30 | - -3100-1 | - 14P | - | 1 | | | | | | | |
| 31 | | | | | | | | | | | |
| 32 | 2204-0002 | LED | - | 2 | | | | CR6,13 | | | |
| 33 | | | | | | | | | | | |
| 34 | 2325-2007 | FASTENER | - | 2 | | | | | | | |
| 35 | | | | | | | | | | | |
| 36 | 1717C1A | PC BOARD | - | 1 | | | | | | | |
| 37 | | | | | | | | | | | |
| 38 | 704130 | FRONT PANEL | - | 1 | | | | | | | |
| 39 | 704139 | COVER PLATE | - | 1 | | | | | | | |

NOTES:

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DATE. 3-7-86
DRAWN: Quik
CHK:

# PARTS LIST

Ddatum inc.

JOB NO:
QUANTITY

REV

TITLE: POWER SUPPLY

ASS'Y NO: 19751

SHT 1 OF 1

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | REF. DES. | UNIT COST | LOT TOTAL |
|---|---|---|---|---|---|---|---|
| 1 | 0102-0104 | RESISTOR 100K, 1/4W, 5% | DATUM | 1 | R1 | | |
| 2 | | | | | | | |
| 3 | 0219-0338-1 | CAPACITOR 3300 Mf 25V | " | 2 | C1,3 | | |
| 4 | " -0478 | " 4700 Mf 16V | " | 1 | C5 | | |
| 5 | 0220-0475 | " 4.7 Mf 35V | " | 3 | C2,4,6 | | |
| 6 | | | | | | | |
| 7 | 0301-9323-K | I.C. LM323K | " | 1 | A3 | | |
| 8 | 0540-0148 | BRIDGE RECT. VH148 | " | 2 | CR51,2 | | |
| 9 | 0601-6537 | TRANSFORMER | " | 1 | T1 | | |
| 10 | | | | | | | |
| 11 | 1202-0102 | SWITCH SPDT | " | 1 | | | |
| 12 | | | | | | | |
| 13 | 1708-4602 | SOCKET | " | 1 | | | |
| 14 | | | | | | | |
| 15 | 2107-0001 | LAMP | " | 1 | | | |
| 16 | 2310-4003 | STANDOFF 4-40 x 7/16 | " | 2 | | | |
| 17 | " -4004 | " " x 1/2 | " | 2 | | | |
| 18 | 2325-2007 | FASTENER | " | 2 | | | |
| 19 | | | | | | | |
| 20 | 703098 | FRONT PANEL STK | " | 1 | | | |
| 21 | 703099 | COVER PLATE STK | " | 1 | | | |
| 22 | 705772 | PLATE | " | 1 | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |
| 25 | 171322 A | P.C. BOARD | " | 1 | | | |
| 26 | LAT03B4CB | HEAT SINK | IERC | 1 | | | |

NOTES:

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DATE: 3-7-86
DRAWN: QH
CHK:

# MATERIAL LIST

datum inc.

JOB NO:
QUANTITY
REV

TITLE: POWER SUPPLY (REGULATOR)

ASS'Y NO: 19752

SHT 1 OF 1

| ITEM | STOCK/PART NO. | DESCRIPTION | MFR/SPEC | QTY. | REF. DES. | UNIT COST | LOT TOTAL |
|---|---|---|---|---|---|---|---|
| 1 | 1708-4602 | SOCKET | DATUM | 2 | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | 708430 | HEATSINK | " | 1 | | | |
| 6 | | | | | | | |
| 7 | MC7808CK | I.C. | MOTOROLA | 1 | A2 | | |
| 8 | MC7908CK | " | " | 1 | A1 | | |

NOTES:

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